WHAT IS CLAIMED IS:

1. A stray light correction method for an imaging light and color measurement system, comprising:

recording an image using a solid-state light detector array, so as to obtain a gray level value at each pixel of the solid-state light detector array;

calculating an average gray level value of the image recorded by the solid-state light detector array;

multiplying the average gray level value with a stray light factor to obtain a correction value; and

subtracting the correction value from the gray level of each pixel.

2. The stray light correction method according to claim 1, wherein the stray light factor is obtained by:

recording a test image using the solid-state light detector array;

obtaining a reference measurement on a high-brightness region of the test image;

obtaining a reference measurement on a low-brightness region of the test image;

comparing the test image with the reference measurements of the high- and low-brightness regions; and

computing the stray light factor according to the comparison results.

3. The stray light correction method according to claim 2, wherein the steps of obtaining the reference measurements of the high- and low- brightness regions include obtaining luminance values LB, LD and gray level values GB, GD of the high- and low- brightness regions, respectively.

4. The stray light correction method according to claim 3, further comprising calculating the stray light factor by [GD-GB*(LD/LB)]/GA, where GA is an average gray level value of the test image.

5. The stray light correction method according to claim 2, wherein the step of recording a test image includes

recording an image with high-contrast regions.

6. The stray light correction method according to claim 2, wherein the step of recording a test image includes recording an image with a checkerboard pattern.

7. The stray light correction method according to claim 2, wherein the step of recording a test image includes recording an image with an automotive headlamp beam pattern.

8. The stray light correction method according to claim 1, wherein the stray light factor for each of the pixels is identical when a stray light incident on the imaging light and color measurement system is uniform.

9. The stray light correction method according to claim 1, wherein the solid-state light detector array is a charge-coupled device (CCD).

10. The stray light correction method according to claim 1, wherein the solid-state light detector array is partitioned into a plurality of regions when a stray light incident on the imaging light and color measurement system is non-uniform, and each of the regions has a unique stray light factor.

11. The stray light correction method according to claim 10, wherein the solid-state light detector array is a charge-coupled device (CCD).

12. A stray light correction method for an imaging light and color measurement system, comprising:

activating a software, in which a plurality of correction values for various combinations of solid-state light detector arrays/lens/optical elements used for color measurement are stored;

entering a specific combination of a solid-state light detector array/lens/optical elements used for color measurement; and

recording an image using the specific combination of a solid-state light detector array/lens/optical elements used for color measurement entered to the software, to obtain a recorded image with a gray level value at each pixel of the

solid-state light detector array;

wherein the software automatically subtracts each gray level value with a correction value corresponding to the specific combination of a solid-state light detector array/lens/optical elements used for color measurement.

13. The stray light correction method according to claim 12, wherein the correction value is obtained by multiplying an average gray level value of the gray level value at each pixel with a stray light factor.

14. The stray light correction method according to claim 12, wherein the stray light factor is obtained by:

recording a test image using the specific combination of a solid-state light detector array/lens/optical elements for color measurement;

obtaining a reference measurement on a high-brightness region of the test image;

obtaining a reference measurement on a low-brightness region of the test image;

comparing the test image with the reference measurements of the high- and low-brightness regions; and

computing the stray light factor according to the comparison results.

15. The stray light correction method according to claim 14, wherein the step of recording a test image includes recording an image with high-contrast regions.

16. The stray light correction method according to claim 14, wherein the step of recording a test image includes recording an image with a checkerboard pattern.

17. The stray light correction method according to claim 14, wherein the step of recording a test image includes recording an image with an automotive headlamp beam pattern.

18. The stray light correction method according to claim 14, wherein the solid-state light detector array is a charge-coupled device.

19. The stray light correction method according to claim

14, wherein the optical elements used for color measurement are color-matching filters corresponding to CIE 1931 X, Y and Z tristimulus values.

20. The stray light correction method according to claim 12, further comprising the following steps:

determining whether a stray light incident into the imaging light and color measurement system is uniform;

partitioning the imaging light and color measurement system into a plurality of regions when the stray light is non-uniform; and

retrieving a unique correction value for each of the regions and subtracting the unique correction value from the gray scale value for each corresponding pixel by the software.

21. The stray light correction method according to claim 12, further comprising the following steps:

determining whether a stray light incident into the imaging light and color measurement system is uniform; and

subtracting the same correction value from the gray level value for each of the pixels by the software.